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AUTHOR Judith Kleinfield; And Others
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ABSTRACT

Addressing concerns of some Alaska educators and parents about the fairness of the Iowa Tests of Basic Skills (ITBS), this paper clarifies what can be expected of norm-referenced tests and examines the extent to which the results of the Alaska Statewide Student Assessment may be affected by test bias. Although some test items may ask questions that are more within the common experience of urban children, they measure general knowledge and academic skills important in mainstream society. The ITBS tells educators and parents how children stand in the area of general knowledge and academic skills compared to children across the country. It is not a measure of intelligence, creativity, or other important human characteristics. To the extent that the basic language arts, reading, and mathematics skills covered by the ITBS are taught in Alaska schools, the tests are fair measures of what is taught. Possible explanations for ethnic differences in test scores are ethnic-group-related differences in average income, level of education, and the value placed on school achievement. Differences in the types of schools that minority students attend may also contribute to the differences in the test outcome. Riverside Publishing Company, which publishes the ITBS, attempts to minimize bias through item analysis by expert reviews and quantitative analyses of test results from tryout studies. Standardized tests can provide both individual and group information, but should be interpreted cautiously. Test results should be only one indicator of many used to determine school success or failure. (KS)

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ALASKA

Educational Research Association

Alaska Statewide Assessment Student Testing Program:

Are the Tests Biased?

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THE ALASKA STATEWIDE STUDENT TESTING PROGRAM: ARE THE TESTS BIASED?

Introduction

The Alaska Statewide Student Assessment shows notable performance differences between students in urban and rural areas, Native and non-Native students, and bilingual and non-bilingual students. Some Alaska educators and parents react to the results of the Alaska Statewide Student assessment with concern and question the fairness of the Iowa Tests of Basic Skills.

The Alaska Educational Research Association (AKERA) has prepared this paper to clarify what can be expected of norm referenced tests and to examine the extent to which the results of the Alaska Statewide Student Assessment may be affected by test bias. Sections of this paper have been prepared by Judith Kleinfeld of the University of Alaska, who serves as President of the AKERA, Nick Stayrook of the Fairbanks North Star Borough School District, Bob Silverman of the Alaska State Department of Education, Mary Francis who is Superintendent of the Petersburg City School District, and Fred Stofflet and Ray Fenton from the Anchorage School District. This white paper has been reviewed, revised, and endorsed by the AKERA Board of Directors.

What is the Alaska Statewide Student Assessment?

The Alaska State Legislature makes a substantial contribution to funding public education in Alaska. Through the public school foundation program, about $488 million dollars were spent in Alaska's 54 school districts during the 1989-90

school year. This represented an expenditure of approximately $4,600 state dollars per student. In absolute dollars per student, Alaska leads the nation in its support of public education.

The Legislature in 1988 requested the state to select and administer a single basic skills achievement test to determine the benefits of this commitment to education. In response to this legislative request, the Alaska State Board of Education adopted regulations requiring that all students in grades 4, 6 and 8 be tested each year with a uniformly administered test of reading, mathematics and language arts. The intent of this regulation was to focus the attention of parents, communities, policy makers, and educators on the academic performance of students in Alaska's school districts by making the results of the tests widely available.

When compared with other state programs to measure student performance, Alaska's testing program is modest in terms of the number of areas tested and amount of time devoted to testing. The Iowa Tests of Basic Skills (ITBS) was chosen by committees of educators from throughout the state as the best available norm referenced measure for Alaska. The ITBS is a series of multiple choice tests measuring achievement in reading, mathematics and language arts. The test takes a total of about 5 hours for students to complete, and most schools spread testing over several days.

Is the ITBS "biased" against Alaska Natives or other groups?

Many people argue that a standardized test, such as the ITBS, is "biased" against Alaska Natives and other culturally different groups and therefore is an "unfair" measure of achievement. When people make this argument, they usually have in mind this problem: Some test items ask questions about topics which are <u>within</u> the common experience of urban mainstream children but <u>outside</u> the common experience of rural Native children. As an example, an item on the test may require children to know what a "curb" is when many rural Native children live in communities without curbs. The test may require children to answer reading comprehension questions about a girl who dials "911" in an emergency. Many rural Native children may find this reading section difficult and confusing because they do not live in communities where people dial "911" in an emergency.

The ITBS indeed measures both the general knowledge and the academic skills useful in urban areas and in mainstream social settings. These are skills important to balancing a checkbook, doing well in college, working effectively in a business or agency, or reading a newspaper with understanding. To do well in these situations indeed requires general knowledge, for example, knowing what a "curb" is and that "911" is usually dialed in an emergency.

It makes no sense, however, to say that the ITBS is "biased" simply because it measures general knowledge and academic skills. This is exactly what the test is supposed to measure. Suppose a "Barrow Test of Basic Whaling Skills" were developed which measured general knowledge and skills important to the Inupiaq culture. It would make no sense to say that the test of whaling skills is "culturally biased." The whaling test would be supposed to measure precisely these kinds of cultural skills.

The question that rural parents and educators should ask is not "Is the Iowa Test of Basic Skills culturally biased?" but rather "Is it important that rural children acquire general knowledge and academic skills?" Most Native parents want their children to have the knowledge and skills necessary to be effective as adults in both Native cultural contexts and in mainstream contexts. What the ITBS will tell parents is how their children stand in the area of general knowledge and academic skills compared to chidren across the country.

What is essential to keep in mind is that the ITBS measures only a limited number of academic skills. It is NOT a measure of intelligence, creativity, drive to achieve, concern for other people, or other important human characteristics.

Does the ITBS fairly measure what we are teaching in our schools?

The ITBS was developed to measure a limited set of student achievements: basic skills in reading, language arts and mathematics. The tests' developers identified content and items for inclusion on the tests based on commonly used texts and materials around the country at the time the tests were developed. Thus, the ITBS can be useful as a general measure of basic skills attainment without necessarily being a good measure of the curriculum or program of a specific school.

To the extent that the basic language arts, reading, and mathematics skills covered by the Iowa Tests of Basic Skills are taught in Alaska schools, the tests are fair measures of what we are teaching. However, the test does not cover all of the many skills taught in the schools across Alaska or any other state.

Why do some groups do better than others on measures like the ITBS?

It is common to find substantial differences in average scores of students when classified by ethnicity or gender. In the United States, many studies have shown that students with an Asian heritage do better than other groups of

students on some tests while students from Black, Hispanic, or Native heritages do not do as well. In the early grades, girls do better than boys in language arts.

One explanation for these group differences in test score is that cultural groups also differ in average income, level of education, and the value placed on school achievement as opposed to other endeavors. Students who come from wealthier and more educated families often receive more special lessons and other educational opportunities and more help and encouragement with school work at home. These are group differences and do not tell us about individual students. Many minority students receive high scores on tests and do very well in school while many non-minority students do not do well in school and receive low test scores.

A second explanation for group differences in test scores centers on the types of schools minority students attend -- particularly the academic emphasis of the curriculum and the expectations of teachers. In a special analysis of the ITBS results for the Alaska Department of Education, H.D. Hoover, one of the authors of the ITBS, found that Native students in predominantly white schools performed much higher than Native students in predominantly Native schools. This result supports the idea that school differences may be important in explaining the lower performance of Native students on standardized tests.

Do test-makers make any effort to eliminate test bias against minority groups?

Students who have the same level of competence in a subject like mathematics or language arts should get roughly similar scores on the ITBS. If minority students with the same level of competence as other students get lower scores, then the test is "biased" against them.

Riverside Publishing Company, which publishes the ITBS, attempts to minimize such bias in a number of ways. Every test item undergoes three different expert reviews for possible bias, including a review by a panel of independent experts selected on the basis of geographic region and ethnic composition. Quantitative analyses of test results from an item tryout study are also done to see if minority students get lower test scores than non-minority students of similar abilities.

These studies, however, are primarily directed toward fairness in the testing of African-American and Hispanic students. In an effort to determine test and item bias with Alaska Native students, the Alaska Department of Education contracted with H.D. Hoover for a special item bias study investigating differences in performance between Alaska Native students and white students in the Fall 1989 assessment results.

When Native students and white students of similar ability levels were compared, Hoover found that 7 percent of the test items statistically favored white students and 6 percent of the items statistically favored Native students. In short, nearly the same number of test items were biased in favor of Native students as were biased in favor of White students. Thus, in a technical sense, the ITBS is not particularly biased against either Native or White students of similar levels of competence.

Why don't we test students in their own language rather than English?

The Alaska Statewide Assessment is intended to provide a single standard against which all Alaska schools may be tested. Since instruction in grade four is for the most part in English, use of an English test shows how well students are doing in the language in which most schooling takes place.

In some Alaska schools, many students are bilingual and some come from homes where English is not spoken. This may make completing school work in English and taking tests like the Iowa Tests of Basic Skills more difficult. As students become better at speaking English, however, both school performance on lessons in English and performance on tests in English should improve. Over

the years, use of a test like the Iowa Tests of Basic Skills will show if this is the case in Alaska schools where many students are bilingual.

If one goal of the school is to provide a bilingual educational experience, the ITBS does not measure these Native language skills. Other measures should be used to show student progress in communities where lessons are not taught in English.

What are the proper uses of standardized tests?

Standardized tests have two main uses. First, individual student results provide teachers and parents with diagnostic information about learning problems, a measure of individual pupil progress, and assistance in identifying students with special educational needs. Second, group results enable measurement of class progress, documentation of curriculum and instructional effects, justification for funds to support special programs, measurement of school effectiveness, and the provision of accountability information to the public and legislators.

It is the uses of test results, rather than the tests themselves, which most often lead to criticism that the tests are unjust or inappropriate. Generally,

the companies which produce standardized tests argue that the tests are but a single indicator of performance which should be used only in conjunction with other measures. If this recommendation is followed, the test results become only one type of indicator which may be used by teachers or school administrators. Other indicators such as attendance, graduation rates, grades, informal teacher assessments, teacher-made tests, school district criterion referenced tests, and the success of students after graduation may all be important indicators of student and school success or failure.

Is it beneficial to have Alaska Statewide Assessment scores?

The state assessment program offers important benefits for school officials, teachers, parents, and legislators. The ITBS provides an objective measure of how the performance of Alaska students and Alaska schools measures up against the performance of students and schools nationwide. Test results are like an orange warning light. If our students are not doing well compared to others, we need to take a careful look at our curriculum and our schools.

But the ITBS measures only some of our educational goals. Alaska communities, particularly rural Native communities, may want their schools to help maintain

the vitality of cultural traditions or teach locally important economic skills. The ITBS does not measure how well the schools respond to these community goals. Nor does the ITBS measure intelligence, compassion, or many other important human qualities.

What the ITBS does measure is the extent to which Alaska students are competent in basic academic skills, such as reading, mathematics, and language arts. This is important knowledge, and it is the knowledge the tests give us.

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